Kentucky
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Cigarette Smoking in Kentucky: Smoking-Attributable Mortality and Years of Potential Life Lost*

ABSTRACT

To measure the adverse health impact of smoking in Kentucky, a major tobacco-growing state with the nation's highest prevalence of smokers ages 18 and over, percentages of deaths and years of potential life lost attributable to smoking were estimated. Summaries of the analyses for Kentucky in 1996 are presented. These show that 23% of all deaths in Kentucky were attributable to smoking, compared to 19.5% for the nation. Because most smoking-related illnesses develop over a long time, Kentucky can expect to continue to have a substantial excess of smoking-attributable deaths in the future.

INTRODUCTION

Burley tobacco is Kentucky's number one cash crop, and the tobacco industry is a major employer throughout the state. Burley production was 399 million pounds in 1997.[1]

Cigarette smoking is the leading preventable cause of disease and premature death in the United States.[2] Since the national Behavioral Risk Factor Surveillance System (BRFSS) was begun in 1985, Kentucky's prevalence of current smokers has ranked at or near the top of states surveyed.[3] Results from the 1996 BRFSS indicated that 31.6% of Kentuckians over 18 years of age were current smokers, the highest prevalence of all the states. This compares with a median prevalence of 23.5% for the 50 states and the District of Columbia.[4] A *Healthy Kentuckians 2000* objective is to reduce cigarette smoking to a prevalence of no more than 23% among Kentuckians 18 and older.[5]

To measure the adverse heath impact of smoking, the Division of Epidemiology and Health Planning periodically estimates the smoking-attributable mortality (SAM), smoking-attributable fraction (SAF), and years of potential life lost (YPLL).

In this issue. . .

METHODS

SAMMEC 3.0 computer software[6] was used to calculate SAM, SAF, and YPLL. Calculations were made for 22 smoking-related diseases among adults ages 35 years or more, smoking-related burn fatalities for all ages, and four perinatal conditions related to maternal smoking. Mortality data for 1996 were obtained from the Kentucky vital records system. The estimated prevalence of cigarette smoking for 1996 was calculated from the Kentucky BRFSS.

SAM was computed by multiplying the number of gender- and cause-specific deaths by the SAF. SAF is a system for weighting figures using past, current, and never smokers.[7] YPLL was calculated by summing the product of gender- and age-specific deaths by years of potential life remaining. Years of potential life remaining figures were obtained from life tables prepared by the National Center for Health Statistics.[8]

RESULTS

In 1996, 23% of all deaths in Kentucky were attributable to smoking. The comparable figure for the nation was 19.5% using 1990-1994 calculations, the latest years for which data are available.[9] Thirty-one percent of Kentuckians whose deaths were attributable to smoking were younger than 65 years of age.

SAM was higher for men than for women (29% among men compared to 17% among women). In 1992, these percentages were 29% and 15% respectively.[10]

***Adapted, with permission, from Journal of the Kentucky Medical Association, 96: 451-455.**
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Cigarette Smoking in Kentucky (continued from page 1)

Table 1. Estimated Smoking-Attributable Years of Potential Life Lost (YPLL) By Cause of Death and Gender, Kentucky, 1996

Cause of Death (ICD-9 Rubric)	Male	Female	Total
Neoplasms			
Lip, Oral Cavity, Pharynx (140-149)	1,304	449	1,753
Esophagus (150)	1,458	350	1,808
Pancreas (157)	789	979	1,768
Larynx (161)	619	361	980
Trachea, Lung, Bronchus (162)	25,372	15,632	41,004
Cervix Uteri (180)	N/A	720	720
Urinary Bladder (188)	633	224	857
Kidney, Other Urinary (189)	964	133	1,097
Total	**31,139**	**18,848**	**49,987**
Cardiovascular Diseases			
Hypertension (401-404)	719	464	1,183
Ischemic Heart Disease (410-414)			
Persons Aged 35-64	13,088	4,705	17,793
Persons Aged 65+	5,348	4,004	9,352
Other Heart Disease (390-398, 415-417, 420-429)	5,851	3,758	9,609
Cerebrovascular Disease (430-438)			
Persons Aged 35-64	2,362	2,275	4,637
Persons Aged 65+	1,637	940	2,577
Atherosclerosis (440)	360	266	626
Aortic Aneurysm (441)	1,290	351	1,641
Other Arterial Disease (442-448)	722	400	1,122
Total	**31,377**	**17,163**	**48,540**
Respiratory Diseases			
Pneumonia, Influenza (480-487)	1,983	1,619	3,602
Bronchitis, Emphysema (490-492)	1,695	1,559	3,254
Chronic Airways Obstruction (496)	7,646	7,173	14,819
Other Respiratory Diseases (10-12, 493)	221	252	473
Total	**11,545**	**10,603**	**22,148**
Perinatal Conditions			
Short Gestation / Low Birth Weight (765)	715	587	1,302
Respiratory Distress Syndrome (469)	30	65	95
Respiratory Conditions-Newborn (770)	104	33	137
Sudden Infant Death Syndrome (798.0)	253	127	380
Total	**1,102**	**812**	**1,914**
Burn Deaths	857	704	1,561
Total	**76,020**	**48,130**	**124,150**

Lung cancer accounted for 31% of overall smoking-attributable mortality. For males the percentage was 33%; for females 28%. Ischemic heart disease was responsible for 20% of overall smoking-attributable deaths; chronic airways obstruction for 15%.

Analysis of 1996 data shows that 124,150 YPLL (based on life expectancy) were attributable to smoking (Table 1), an increase from 101,145 YPLL in 1992. The 1996 data show that persons younger than 65 years of age accounted for 54% of YPLL. Of total YPLL, 61% were in men while 39% were in women. In 1992, 65% of YPLL were in men and 35% were in women. The average YPLL per smoking-attributable death in 1996 was 14 years. In 1992 this figure was 13 years.

DISCUSSION

Kentucky mortality data emphasize the impact of cigarette smoking on premature mortality in a state with a high prevalence of tobacco use. YPLL due to smoking are excessive. Special concerns are that 31% of smoking-attributable deaths and 54% of YPLL were among persons younger than 65 years of age; also the percentage of both smoking-attributable deaths for women and YPLL for women increased from 1992. Because most smoking-related illnesses develop over a long time, Kentucky can expect to continue to have a substantial excess of smoking-attributable deaths in the future.

Health officials in Kentucky are committed to reducing the prevalence of smoking. Disease impact estimation is an important consideration in planning public health efforts. Increasing the awareness of the consequences of active and passive smoking is imperative. These data support the need to focus smoking cessation efforts among younger persons before the onset of chronic disease associated with smoking.

For References see page 4

Healthy People

Healthy People is an initiative that defines the nation's health agenda and guides policy. It includes specific objectives that are to be monitored over a decade. Through Healthy People, we can identify the most significant opportunities to improve the health of all Americans and help focus both public and private sector efforts on those areas. Healthy People offers a simple but powerful idea—provide the information and knowledge about how to improve health in a format that enables diverse groups to combine their efforts and work as a team.

INITIATIVE ORIGINS

The initiative originated with a 1979 report by the U.S. Surgeon General that established five life-stage targets to be achieved over a 10-year period. Since then, Healthy People has been used to harness the best scientific knowledge and to transmit that information into action, from ground-breaking research to far-reaching public awareness campaigns. This initiative has had the bipartisan support of four administrations.

HEALTHY PEOPLE 2010

Healthy People 2010, the third set of national health objectives is currently under development. Healthy People 2010 addresses the scenarios and trends of the upcoming decade—a larger, more diverse population, the aging of the population, the rising numbers of uninsured persons, and a host of new health risks such as emerging infections diseases. While it will draw substantially from Healthy People 2000, the current decade's health agenda, Healthy People 2010 will include new objectives and areas of focus. The final objectives will provide a consensus of challenges that we should be pursuing. It will guide the country's health improvement effort into the 21st century.

2010 DEVELOPMENT

The 2010 development process has been a collaborative effort. The draft objectives are the result of two years of consultation. Last fall, during the public comment period on the proposed framework for the document, the Department for Health and Human Services (DHHS) worked closely with the Healthy People Consortium. The consortium membership totals 59 million professional, voluntary, and business people from 271 state organizations and 350 national organizations. Taking this input into account, the Secretary's Council of National Health Promotion and Disease Prevention Objective for 2010 guides the development process. Lead agencies within DHHS were responsible for organizing work groups, which incorporated the best science available to draft the proposed objectives.

2010 FORMAT

Healthy People 2010 Objectives: Draft for Public Comment has two proposed overreaching goals: increase the quality and years of healthy life and eliminate health disparities. There are more than 500 specific objectives currently proposed. They fall into 26 focus areas, which are further organized into four categories: (1) promote healthy behaviors; (2) promote healthy and safe communities; (3) improved systems for personal and public health; and (4) prevent and reduce disease and disorders.

INITIATIVE USERS

The Healthy People framework is widely used to guide health policy and program development. Currently all States and many localities tailor Healthy People to their own needs and set their own targets. Hundreds of national organizations also use the framework. For example, the American Dental Association used the objectives to develop model standards, a tool for adapting objectives to local situations. Healthy People is used not just by policymakers, but in many different settings, including schools, worksites, and senior centers.

COMMENTS

The continued input of the public health community and those in the health professions is needed to assist in critiquing the underlying science and rationale behind the objectives. The Healthy People process is being put before the American people to make it a truly national endeavor by reaching out to both businesses and individuals. It seems especially fitting to ask the public to play a role in the development of Healthy People 2010 at a time when many consumers are playing a greater role in decisions about their own health and are expressing an unprecedented appetite for health information. The heightened awareness of personal responsibility for one's health is one of the most encouraging trends that will lead us into the 21st Century.

MEASURING PROGRESS

The notion of working toward shared targets is at the heart of the Healthy People initiative. The initiative is so powerful because these targets serve as incentives for change. Periodic progress reviews for population groups and focus areas are conducted to continuously monitor our progress. By adhering to a measure and tracking it over time, it will become clear whether or not the nation is moving in the right direction. The reports that result from the DHHS progress reviews serve as the backbone of our future strategic planning and are linked to the Government Performance and Results Act.

Healthy People (continued from page 3)

CONTROVERSIAL OBJECTIVES

Objectives addressing family planning, tobacco increases, and STDs/HIV are likely to remain controversial because they relate to lifestyle choices. However, it is a scientific base that provides compelling evidence of both needs and opportunities to improve health. While data collection requirements for STDs/HIV, for example, are a controversial issue, the information is needed to advance science/knowledge and effectively address these epidemics.

PRIORITIES & NEW AREAS

While the Nation faces many health challenges, Surgeon General Satcher has stated that he would be very satisfied to make significant progress toward the following priorities: (1) providing every child a healthy start; (2) promoting personal responsibility for healthy lifestyles and behaviors; (3) eliminating racial disparities in health status, health care access, and quality; (4) enhancing mental health prevention, treatment and outcomes; (5) increasing awareness and attention to global health; (6) coordinating the U.S. effort against emerging infectious diseases, (7) leading the national response to the health consequences of bioterrorism; and (8) promoting the safety and availability of the blood supply.

Four new areas are: (1) health communication objectives to increase research, and quality, effectiveness, and evaluation of health communication messages; (2) public health infrastructure objectives to ensure that public health organizations at the federal, state and local levels have the capacity to provide essential services; (3) arthritis, osteoporosis and chronic back condition objectives; and (4) disability objectives to promote health and prevent secondary conditions, (e.g., physical pain, depression) among those with disabilities and to eliminate disparities between persons with disabilities and others.

IMPORTANCE OF DATA COLLECTION

Data are the foundation of Healthy People objectives. The experiences of the past two decades demonstrate that this framework has been a useful tool for identifying where information is missing and where improvements are occurring. Healthy People objectives have focused attention on what is important to measure and successfully spurred the development of new data systems. A new feature of Healthy People 2010 is the inclusion of developmental objectives that provide a vision for a desired outcome or health status. Current surveillance systems do not provide data on these objectives. The purpose of developmental objectives is to identify areas that have growing importance and to drive the development of data systems to measure them.

2010 RELEASE

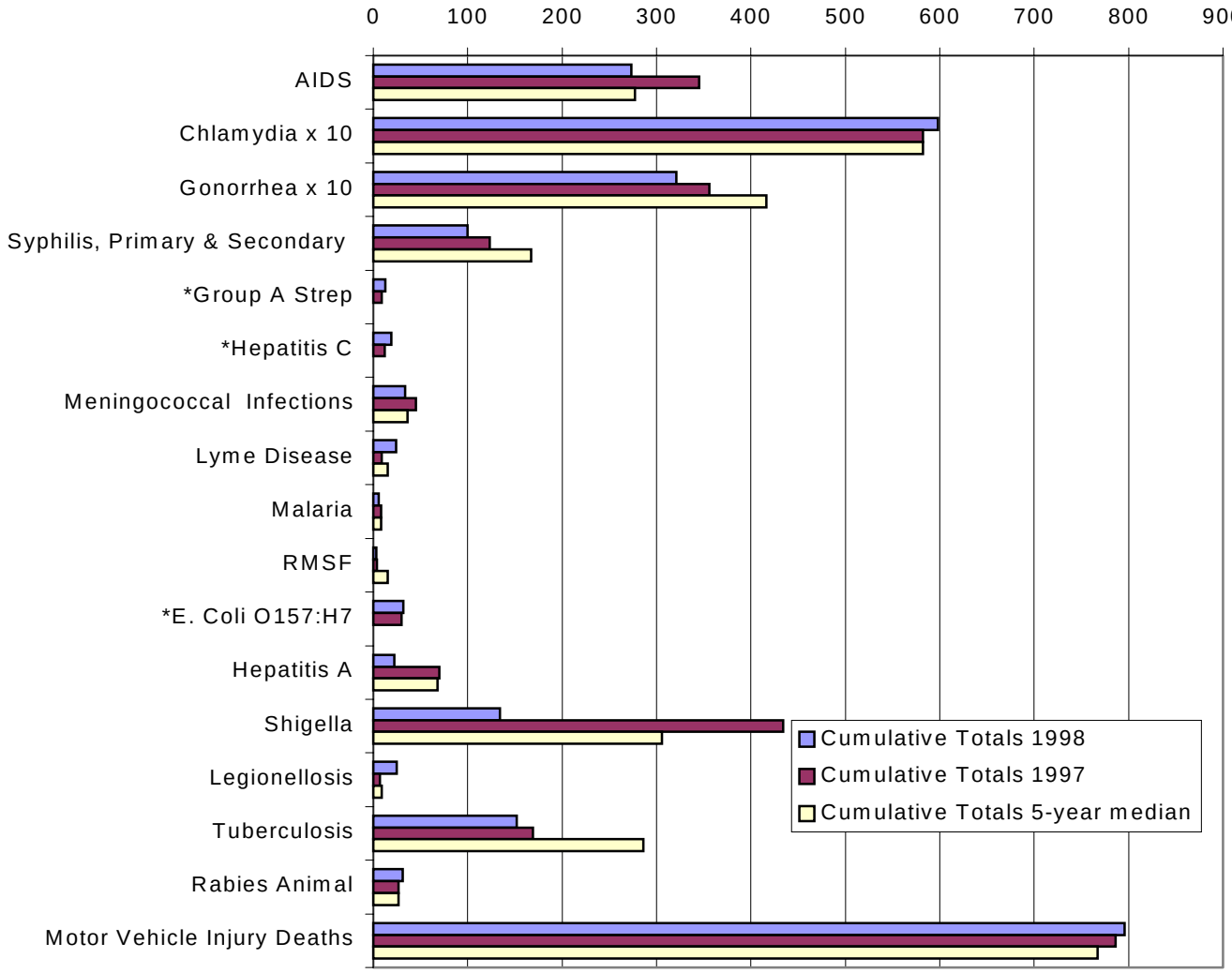
The final document will be released in January of the year 2000. It is hoped that the release of the national objectives will also encourage States and communities to release their tailored plans. Also expected are companion documents that focus on specific interest areas, such as children with special health care needs.

Cigarette Smoking in Kentucky: Smoking-Attributable Mortality and Years of Potential Life Lost (continued from page 2)

REFERENCES

1 Kentucky Agricultural Statistics Service. Kentucky agricultural statistics, Louisville, KY. Kentucky Department of Agriculture, 1997.
2 CDC. Reducing the health consequences of smoking: 25 years of progress - a report of the Surgeon General. Rockville, MD. US Department of Health and Human Services, Public Health Service, 1989; DHHS publication no.(CDC)89-8411.
3 CDC. 1985-1996 BRFSS summary prevalence reports. Atlanta, GA. US Department of Health and Human Services, Public Health Service.
4 CDC. 1996 BRFSS summary prevalence report. Atlanta, GA. US Department of Health and Human Services, Public Health Service, 1997.
5 Kentucky Department for Health Services. Healthy Kentuckians 2000: Kentucky's public health objectives for the year 2000. Frankfort, KY. Kentucky Cabinet for Human Resources, 1991.
6 Schultz JM, Novotny TE, Rice DP. SAMMEC 3.0. Smoking-attributable mortality, morbidity, and economic costs computer software and documentation. Atlanta, GA. US Department of Health and Human Services, Public Health Service, August 1996.
7 Ibid.
8 National Center for Health Statistics. Vital statistics of the United States, 1991: life tables. Hyattsville, MD. US Department of Health and Human Services, Public Health Service, 1995.
9 CDC. Smoking-attributable mortality and years of potential life lost - United States, 1984. MMWR 1997; 46:449.
10 Hughes JP, Stapleton MP. Cigarette smoking in Kentucky: Progress toward year 2000 objectives and reduction of mortality. South Med J 1994; 87:696-701.

CASES OF SELECTED REPORTABLE DISEASE IN KENTUCKY, YEAR TO DATE (YTD) THROUGH NOVEMBER 1998



Vaccine Preventable Diseases-November

Diseases	1998 YTD	1997 ANNUAL TOTALS
Diphtheria	0	0
Haemophilus *influenza* B	7	8
Hepatitis B	41	44
Measles	0	0
Mumps	0	3
Pertussis	50	74
Polio	0	0
Rubella	0	0
Tetanus	0	0

*Historical data are not available.

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September 16	Immunization Update
December 2	Surveillance of Vaccine-Preventable Diseases

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Happy New Year